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EXAMINER

TON, ANTHONY T

ART UNIT PAPER NUMBER

2661

DATE MAILED: 11/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/627,913

Applicant(s)

GALYAS ET AL.

Examiner

Anthony T Ton

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18,20-22,24 and 25 is/are rejected.
- 7) ☒ Claim(s) 19 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Abstract Objections***

1. The abstract is objected to because of the following informalities:

a) Line 2: Term "is" associated with plural subject of system and method; therefore, the term should be changed to "are".

b) Lines 3, 9, 11, 12 and 19: Term "the" should be replaced by term "a" because there are no antecedent subject matters.

c) Line 10: Term "the Base Transceiver Station" should be changed to "a Base Transceiver Station"; it is the same subject matter as mentioned in the item b.

d) Lines 13 and 14: Terms "the frame types" and "the bits" should be changed to "frame types" and "bits", respectively; it is the same subject matter as mentioned in the item b.

e) Lines 15 and 16: Terms "the frame structure" and "the TRAU synchronization bits" should be changed to "a frame structure" and "TRAU synchronization bits", respectively; it is the same subject matter as mentioned in the item b.

Appropriate correction is required.

### ***Specification Objections***

2. The disclosure is objected to because of the following informalities:

a) Page 16 line 16: It is suggested to change "are coded" to "is coded" to incorporate the singular subject of the first bit.

b) Page 17 line 8: It is suggested to change "binary "1."" to "binary "1"."; the period "." should be placed outside of the quotation marks "1".

c) Page 20 line 12: It is suggested to change "includes" to "include" to incorporate the plural subject of the header information 380 and 385.

c) Page 22 line 22: It is suggested to change "kind" to "kinds" to incorporate the plural subject of "these" in line 21.

Appropriate correction is required.

### ***Drawing Objections***

3. The drawings are objected to because of the following minor informalities:

**Figure 3B:** Accordingly, page 8 lines 15-18 of applicant's specification, this figure is not relating to a "PRIOR ART" figure; it is suggested that term "(PRIOR ART)" should be removed from the figure 3B.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

4. Claims 3, and 8-10 are objected to because of the following informalities:

a) Claim 3: Terms "frame an" in line 4, a comma should be added before the term "an" for separating two phrases apart; therefore, the terms should be changed to "frame, an".

b) Claim 8: Terms "information and" in line 11, a comma should be added before the term "and" for separating two sentences apart; therefore, the terms should be changed to "information, and".

c) Claims 9 and 10: Term "includes" in line 3, this term should be in plural mode for the subject of "UDP header information and IP header information"; therefore, the term should be changed to "include".

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claims 3 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 3 recites the limitation "the group" in line 2. There is insufficient antecedent basis for this limitation in the claim.

b) Claim 8 recites the limitation "append" in lines 6 and 8. There is insufficient antecedent basis for this limitation in the claim. In what subject matter does the "append" refer to? Is it referring to "a first node" or "said telecommunications system"? If the "append" refers to "said telecommunications system", it is suggested that the "appending" should be changed to "appended"; otherwise, specify.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 2, and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Figures **3A** and **4A** of the admitted Prior Art (the Prior Art) in view of Bergenwall et al. (US 6,292,891).

a) Claim 1: According to the Prior Art, figure 3A illustrates a conventional Transcoder/Rate Adaptor Unit (TRAU) frame in a circuit-switched Base Station System (BSS) architecture (refer to applicant's specification page 16 line 9 – page 17 line 8), said frame comprising:

a payload including data bits and zero or more parity bits (see labels 340 and 350 in Fig. 3A); and

TRAU in-band control information relevant to the payload and an IP based BSS architecture, said TRAU in-band control information being appended to said payload (see labels 330, 340 and 350 in Fig. 3A).

The Prior Art failed to teach a sequence number parameter defining a sequence number associated with said payload, said sequence number parameter being appended to said payload and said TRAU in-band control information; and

UDP and IP header information including at least an IP address for a receiving node of said UDP packet within said IP based BSS architecture.

Bergenwall et al. do teach such a sequence parameter (see label 206 in Figs 2a and 2b; and col.5 lines 50-54) as well as such UDP and IP header information (see labels 202 and 204 in Figs 2a and 2b; and col.5 lines 39-63). To modify the frame structure bits (synchronization bits and tail bits or spare bits, see labels 310 and 360 in Fig.3A of the Prior Art) of the Prior Art to such a sequence parameter, and such UDP and IP header information would have been obvious to one of ordinary skill in the art as taught by Bergenwall et al., so that the frame disclosed by the Prior Art can be operated within a packet switched Internet Protocol (IP) based network.

b) Claim 2: The UDP packet of Claim 1, further comprising:

frame type information associated with a frame type of said payload (see the Prior Art, label 320 in Fig.3A), said frame type information being appended to said payload (see the Prior Art, labels 330-350 in Fig. 3A)

c) Claim 4: The UDP packet of Claim 1, wherein said TRAU in-band control information does not include a Time Alignment (TA) command parameter.

The Prior Art in Figure 4A failed to teach said TRAU in-band control information does not include the Time Alignment (TA) command parameter. However, in an IP network, TAs are not used since IP is a connectionless protocol that does not guarantee a reliable delivery of data; therefore, the TA command parameter can be removed from the in-band control information of a UDP packet. It would have been obvious to one of ordinary skill in the art not to include such a TA

command parameter in the in-band control information, so that such a TA command parameter can be implemented in an IP network for different purposes.

d) Claim 5: The UDP packet of Claim 1, wherein said UDP packet does not include synchronization bits, tail bits or spare bits.

The Prior Art in Figure 4A failed to teach a UDP packet does not include synchronization bits, tail bits or spare bits. However, when mapping a TRAU protocol onto User Data Protocol, some bits relating to frame structure can be removed, such bits are synchronization bits, tail bits or spare bits. Therefore, it would have been obvious to one of ordinary skill in the art can implement such frame structure bits to other certain conditions such as UDP/IP header and frame sequence number, so that UDP packets can be efficiently routed throughout an IP network.

e) Claim 6: The UDP packet of Claim 1, wherein the length of said UDP packet varies.

The Prior Art also failed to teach such a packet. However, a change in the frame structure and frame type as mentioned above, the length of a packet should be varied as well. Therefore, it would have been obvious to one of ordinary skill in the art can employ such a packet of the Prior Art, as taught by the Applicant, so that UDP packets can be associated with a delay variation in transmission or operated in different data rates.

f) Claim 7: The UDP packet of Claim 1, wherein said TRAU in-band control information includes:

at least one of a phase alignment parameter (see Prior Art Fig. 4A label 410);

a handover command parameter (see Prior Art Fig.4A label 430);  
a request or indication flag parameter (see Prior Art Fig.4A label 440);  
an uplink frame error parameter (see Prior Art Fig.4A label 450);  
a discontinuous transmission request parameter (see Prior Art Fig.4A label 460); and a frame classification parameter or a code mode indication or code mode request parameter (see Prior Art Fig.4A labels 470 and 480).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 8-10, 13, 15-18, 20-22, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Prior Art and Bergenwall et al. (US 6,292,891) as applied to claims 1, 2, and 4-7 above, and further in view of Vargo et al. (US 6,356,545).

a) Claim 8: Bergenwall et al. taught a method of connecting base station to cellular system comprising:

a first node within said IP based BSS architecture adapted to receive a payload (Bergenwall et al. Figure 1 label 100); and

a second node within said IP based BSS architecture and connected to said first node through an IP network (see Bergenwall et al Figure 1 label 108), said second node being adapted to receive said UDP packet from said first node through said IP network using said UDP header information and said IP header information (see Bergenwall et al Figure 1; and col.1 line 66 – col. 3 line 15).

The Prior Art and Bergenwall et al. teach all claimed limitations of Claim 8, except for encapsulating a UDP packet. Bergenwall et al do not explicitly disclose such an encapsulated packet. However, Bergenwall et al do show by a way of unitdata packets for both speech and data packets, wherein the speech and data packets coming from calls are transmitted in a UDP/IP unitdata packet (see col.5 lines 39-43).

Vargo et al. taught such an encapsulated packet (see col.4 line 20-22; col.5 lines 1-12; and col.11 lines 26-33). Therefore, it would have been obvious to one of ordinary skill in the art can modify such a packet of Bergenwall et al, as taught by Vargo et al., in order to protect UDP packets when transmitting them throughout an IP network to a receiving node such as a Channel Codec in a BTS or a TRAU in a Mobile Gateway server.

b) Claim 9: The telecommunication system of Claim 8, wherein said UDP header information and IP header information include at least an IP address associated with said second node (see Bergenwall et al col. 5 lines 58-63).

c) Claim 10: The telecommunication system of Claim 9, wherein said UDP header information and IP header information further include a UDP port number associated with said second node (see Bergenwall et al col. 5 lines 62-63).

d) Claims 13, and 15-18: The Prior Art, Bergenwall et al. and Hellwig et al. would apply the rejections on the claims 2, and 4-7 to the claims 13, and 15-18, respectively, in a telecommunication system as taught.

e) Claims 20-22: The Prior Art, Bergenwall et al. and Hellwig et al. would apply the rejections on the claims 8, 13, and 18 to the claims 20-22, respectively, in a method as taught.

f) Claims 24 and 25: The Prior Art and Bergenwall et al. would apply the rejections on the claims 4 and 5 to claims 24 and 25, respectively, except for the method of encapsulating as taught by Vargo et al as described in claim 8 above.

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 3, 11, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Prior Art and Bergenwall et al. (US 6,292,891) as applied to claims 1, 2, and 4-7 above, and further in view of Hellwig et al. (US 6,295,302).

a) Claim 3, the Prior Art and Bergenwall et al. failed to teach a frame type that is selected from a group consisting of:

a full rate or enhanced full rate speech frame (see Hellwig et al. col.7 lines 33-35 and Table 1);

an adaptive multi-rate speech frame (see Hellwig et al. col.7 lines 39-49);

a half rate speech frame an operation and maintenance frame (see Hellwig et al. col.7 lines 35-39 and Table 1);

a data frame (see Hellwig et al. Fig.4 label 53);

an extended data frame (see Hellwig et al. Fig.4 labels 51 and 53; and col.10 lines 12-23); and an idle speech frame and a silence descriptor frame (see Hellwig et al. col.1 line 65 – col. 2 line 17; and Fig.4 label 57).

Hellwig et al. did teach such a group of the frame type as listed above. To employ such a frame type of the Prior Art to such a group of the frame type as taught by Hellwig et al would have been obvious to one of ordinary skill in the art, so that a frame disclosed by the Prior Art can provide in a variety of different services in packet switched IP based networks.

b) Claim 11: The telecommunication system of Claim 8, wherein said first node is a Channel Codec Unit (CCU) within a Base Transceiver Station (BTS) (see Hellwig et al. block 67 in Fig. 3; and col. 4 lines 53-57), and said second node is a TRAU within a Media Gateway (MGW) (see Hellwig et al. block 71 in Fig. 3)

c) Claim 12: The telecommunication system of Claim 8, wherein said first node is TRAU within a Media Gateway (see Hellwig et al. block 71 in Fig. 3, now it

acts a transmitting node), and said second node is a Channel Codec Unit within a Base Transceiver Station (see Hellwig et al. block 67 in Fig. 3, now it acts a receiving node).

d) Claim 14: The Prior Art, Bergenwall et al. and Hellwig et al. would apply the rejections in the claim 3 to claim 14, in a telecommunication system as taught.

#### ***Allowable Subject Matter***

13. Claims 19 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. Claim 19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

#### ***Citation of Relevant Prior Art***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Patent number of the prior art listed below is considered as citation of relevant prior art in the field of the invention is directed to telecommunications systems and methods for mapping the Transcoder/Rate Adaptor Unit (TRAU) protocol onto a user datagram protocol (UDP) for use in an IP based Base Station system architecture: Sipola (US 6,185,227); Haeggstrom (US 6,167,040); Christensen et al. (US 5,617,419); Olteda et al. (US 6,611,694); and Malomsoky et al. (US 6,512,918).

***Examiner Information***

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T. Ton whose telephone number is 703-305-8956. The examiner can normally be reached on Monday-Friday from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Olms, can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

ATT



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